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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,229	12/15/2003	Steven M. Ayer	200314067-1	6374

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INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

NATNITHADHA, NAVIN

ART UNIT	PAPER NUMBER
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3735

NOTIFICATION DATE	DELIVERY MODE
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12/31/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/737,229	Applicant(s) AYER ET AL.	
	Examiner NAVIN NATNITHITHADHA	Art Unit 3735	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 11-17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22 is/are allowed.
- 6) ☒ Claim(s) 1-4, 11-17, 20 and 21 is/are rejected.
- 7) ☒ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 06 December 2007 has been entered.

Response to Amendment

2. Claims 1, 2, 11, 12, 16, and 19 have been amended. Claims 5-10 and 18 have been cancelled. Claims 21 and 22 have been added. Claims 1-4, 11-17, and 19-22 are pending.

3. The objections to claim 1 is WITHDRAWN in view of the Amendment, filed on 17 October 2007.

4. The 35 U.S.C. 112, second paragraph, rejections to claims 1-10 are WITHDRAWN in view of the Amendment, filed on 17 October 2007.

Response to Arguments

5. Applicant's arguments, see Remarks, pp. 8-17, filed 17 October 2007, with respect to the rejections of claims 1-7 and 11-17 under 35 U.S.C. 102(e), or, in the alternative, under 35 U.S.C. 103(a), and the rejections of claims 1, 7-11, and

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17-20 under 35 U.S.C. 103(a), have been fully considered but are moot in view of the new ground(s) of rejection.

Claim Objections

6. Claim 21 is objected to because of the following informalities:

The limitation "coupling a plurality of ingestible objects to identification circuits" lacks clarity and antecedent basis. The limitation should be amended to "coupling a plurality of identification circuits to a plurality of ingestible objects" (see claim 11). Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated

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that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 21, which is dependent on claim 11, recites the broad recitation “coupling a plurality of ingestible objects to identification circuits”, and the claim 1 also recites “coupling an identification circuit to the ingestible object” which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-4, 11-14, 17, and 20 are rejected under 35 U.S.C. 102(e) as anticipated by Nair et al, U.S. Patent Application Publication No. 2002/013226 A1 (“Nair”), or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nair in view of Miyawaki et al, U.S. Patent No. 5,697,384 A (“Miyawaki”).

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Claims 1 and 4: Nair teaches:

an apparatus for use with a sensing device (external receiver) 22 (see figs. 1 and 2), comprising:

an ingestible object 10; and

an identification circuit (the structure including components

11, 12, 14, 15, 16, and 18; see para. [0017-0018])

11/12/14/15/16/18 coupled to the ingestible object 20, the

identification circuit 11/12/14/15/16/18 upon ingestion of the

ingestible object enabling radio frequency electromagnetic coupling

to the sensing device 22 (by radio frequency signal transmitted by

transducer 16 to a receiver 22, see para. [0018]);

wherein the identification circuit 11/12/14/15/16/18 is configured such that at least one part (dissolvable membrane) 11 of the identification circuit dissolves as a result of ingestion to produce a change in electromagnetic coupling to the sensing device

("Electronic device 14 is interrelated with the sensor membrane 12

and is characterized as altering its electronic properties in the

presence of specific information obtained by sensor membrane 12

and submits an electrical signal that turns "ON" driver circuit 15",

see para. [0018]), thereby indicating that the ingestible object has

been ingested (indication of ingested is characterized by the turning

"ON" of the driver circuit 15 and by the sending of a radio frequency

signal represented of the changed electronic properties, which

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means the presence of a predetermined factor or condition, see para. [0018]).

Using the broadest reasonable interpretation of "identification circuit", Nair teaches that the components of 11, 12, 14, 15, 16, and 18 are interrelated as an "identification circuit", as follows:

Ingestible capsule 10 typically comprises a sensor membrane 12, an electronic device 14, driver circuit 15, a transducer 16 and a power source 18, such as a miniature battery power source. A dissolvable membrane 11 covers an exposed area of the sensor membrane. Components 12, 14, 16, and 18 are interrelated...

See para. [0017-0017]. Because of the broadest reasonable interpretation of the term "identification circuit" in amended claim 1, as shown above, Applicant's arguments, see Remarks, pp. 9-11, filed on 17 October 2007, on the grounds that "Nair's dissolvable membrane is not part of a circuit and particularly is not part of an identification circuit" is not persuasive.

In regards to the limitation "such that an electromagnetic field produced by the sensing device is altered by the identification circuit" in claim 1, Nair's identification circuit 11/12/14/15/16/18 transmits an electromagnetic signal i.e. electronic signal, which can be a signal in radio frequency, ultrasonic, or audio to microwave frequency range, see para. [0018] and [0024]). However, in the alternative that the Applicant contends that the Nair does not teach that the identification circuit 11/12/14/15/16/18 alters an electromagnetic field produced by the sensing device 22, Miyawaki teaches a communication procedure for an ingestible object ("capsule") 1 comprising: an identification circuit ("integrated circuit") 3 enabling electromagnetic coupling to a sensing device ("reader") 40

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such that an electromagnetic field or electromagnetic parameter (electromagnetic waves produce magnetic flux A") produced by the sensing device 40 is altered by the identification circuit 3 to indicate ingestion of the ingestible object (see col. 5, I1.11-23). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Nair's communication technique with Miyawaki's communication technique because Miyawaki's communication technique has a design incentive of "minimize[ing] power consumption to control the apparatus [10]" (see Miyawaki, col. 4, I1.20-22).

Claims 2: Nair teaches that the ingestion is performed for medicinal purposes (see para. [0002]), wherein the ingestion is human ingestion (see Abstract), and wherein

Claims 11-14: Because the method of claims 11-14 are not distinct from the apparatus of claims 1-4, Nair, or in the alternative, Nair in view of Miyawaki, anticipates claims 11-14 for the same reasons as claims 1-4 discussed above.

Claim 17: Nair teaches an electromagnetic parameter of the identification circuit ("characterized as sending a signal of the changed electronic properties to outside the body", see para. [0018]).

Claim 20: Nair teaches at least one part 11 of the identification circuit 11/12/14/15/16/18 is dissolved during the ingestion (see para. [0017]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nair, or in the alternative, Nair in view of Miyawaki, as applied to claim 11 above, and further in view of over D'Andrea et al, U.S. Patent Application Publication No. 2003/0191430 A1 ("D'Andrea").

Claims 15 and 16: Nair, or in the alternative, Nair in view of Miyawaki, does not teach the subject matter of claims 15 and 16. However, D'Andrea teaches the electromagnetic coupling of the identification circuit is different for at least two different locations of the ingestible object ("stomach into the small intestine," see

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para. [0050]), and wherein one of the at least two different locations is inside a container ("reproductive tract," "respiratory tract," or "auditory tract," see para. [0048]) and another of the at least two different locations is in an ingestion system ("gastrointestinal tract," see para. [0048]). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Nair's, or Nair in view of Miyawaki's, electromagnetic coupling/transmission of the identification circuit 11/12/14/15/16/18 to the sensing device 22 in order to determine the precise location of the of the ingestible "capsule within the gastrointestinal tract (.e., whether in the stomach, the small intestine, the large intestine, or the like)" (see D'Andrea, para. [0049]-[0050]).

Allowable Subject Matter

10. Claim 22 is allowed.

11. Claims 19 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

Claims 19 and 22: The prior art of record does not teach a combination of the identification circuit, as claimed, with an ingestible object that includes a layer that is wherein the ingestible object includes a layer that is opaque to electromagnetic signals within a wavelength band and configured to be dissolved

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during ingestion, to produce a change in electromagnetic coupling to the sensing device, thereby indicating that the ingestible object has been ingested.

Claim 21: The prior art of record does not teach the method of claim 1, including the combination of: coupling a plurality of identification circuits to a plurality of ingestible objects and incrementing a counter after ingestion of each ingestible object.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Navin Natnithithadha whose telephone number is (571) 272-4732. The examiner can normally be reached on Monday-Friday, 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II, can be reached on (571) 272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Navin Natnithithadha/
Primary Examiner, Art Unit 3735
12/20/2007